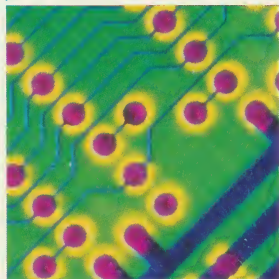
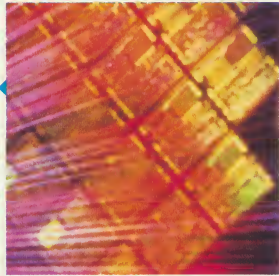
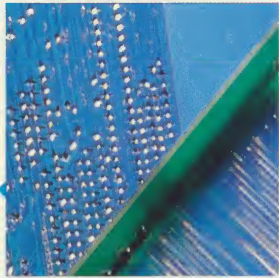
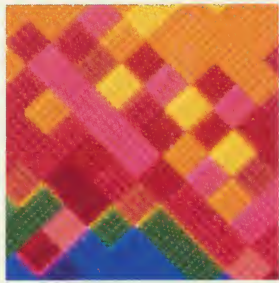


# NOMAD

## Executive Overview



**MUST** SOFTWARE  
INTERNATIONAL  
Member Thomson Information Technology Group

## **NOMAD — Integrated Productivity Tools for Innovative Solutions**

Capitalizing on emerging technological advances is vital to competing in today's global marketplace. It's a challenge that demands your best ideas and ingenuity.

MUST Software International, a pioneer in application development technology, offers an integrated family of productivity tools that will make your ideas work and your work easier in the distributed environments of the '90s.

Our cornerstone product, NOMAD, has repeatedly broken ground in fourth-generation relational technology. In areas such as access to SQL database engines, high-level performance features, integrated windowing capabilities and cooperative processing, our reputation stands firm as a company that provides its customers with real productivity breakthroughs.

Building on NOMAD's foundation, MUST Software's NOMAD VISTA strategy continues to take NOMAD's strengths far forward, providing the most advanced family of products for distributed solutions on the market today.

Under the NOMAD VISTA umbrella, NOMAD provides:

- The most advanced technology for enterprise-wide application solutions,
- Client/server implementations for transparent access to leading relational database engines, and
- Cooperative processing capabilities that distribute both data and application function for maximum leverage of all your resources.

For our more than 350,000 customers who use NOMAD for a broad spectrum of applications, NOMAD is a secure investment in the future. Today's NOMAD family of products is available for IBM and compatible mainframes, PCs and DEC VAX systems. As a tightly integrated offering, they provide an evolutionary growth path that offers unparalleled new options and flexibility for the future.

## Mainframe Products

### NOMAD

NOMAD for MVS and VM is a functionally rich productivity tool for developing a full range of applications with easy access to a variety of data sources for reporting and analysis.

#### *Access to Multiple Data Sources*

NOMAD incorporates a fully relational native DBMS, which provides the basis for its tight integration and efficient use of relational engines such as DB2, SQL/DS and the Teradata DBC/1012 machine. A special shared database facility enables you to report from both local and remote NOMAD databases on VM and MVS machines.

#### *Comprehensive Reporting and Analysis*

With NOMAD you have maximum flexibility for all types of reporting, including production-level applications in either interactive or batch mode. NOMAD is ideally suited for financial reporting and is unique in its integration of:

- Powerful decision-support features,
- Complete support for arrays and time series, and
- Financial formatting capabilities.

#### *Application Development*

NOMAD features fully integrated non-procedural and procedural languages. Coupled with a collection of design tools and application generators, NOMAD offers an ideal "workbench" environment for both prototyping and developing complete applications.

NOMAD Windows provides you with a programmable windowed environment in which to work and easily create CUA-style windowed applications. In addition, a variety of user interface options, including a CUA-style reporting front end and graphical user interface design tool, speed both the delivery and use of NOMAD applications.

#### *Cooperative Processing*

With NOMAD's advanced cooperative processing capabilities, additional system performance and productivity gains can be easily realized. By distributing your applications between the mainframe and PC, NOMAD helps you maximize the value of your hardware and software resources.

### DB2 NOMAD

DB2 NOMAD is designed to give you an effective, efficient way to leverage your investment in DB2. Based on NOMAD's long history of leadership in relational technology, DB2 NOMAD complements the power of the DB2 database engine with a functionally rich productivity tool for complete application development and end-user computing.

You will quickly benefit from DB2 NOMAD's complete non-procedural language for fast prototyping, its built-in decision-support functions, and its fully integrated programming language with functionality comparable to PL/I and COBOL. In addition, the product offers an array of tools and templates for quickly generating report requests, forms, menus and maintenance procedures.

Furthermore, DB2 NOMAD provides important relational features not found in DB2, including:

- Complete outer join support,
- Fixed and varying array data types and support for time series and text data, and
- Enhanced referential integrity.

To maximize your investment in DB2 further, DB2 NOMAD gives you the ability to use both dynamic and static SQL access to DB2 data. This makes it equally well suited for highly generalized, ad hoc applications, as well as production applications where performance and program authorization are key requirements.



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## SQL/DS NOMAD

SQL/DS NOMAD gives you the improved productivity of relational fourth-generation language technology for application development and end-user computing with the SQL/DS database engine. SQL/DS NOMAD is engineered for optimum efficiency with SQL/DS, and is similar to DB2 NOMAD in its broad range of features.

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## TERADATA NOMAD

TERADATA NOMAD significantly extends the benefits of the Teradata DBC/1012 by coupling the most comprehensive fourth-generation language for application development and end-user computing with the DBC/1012 machine. TERADATA NOMAD provides you with the rich functionality also found in SQL/DS NOMAD.

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## Reporter NOMAD

Reporter NOMAD is a powerful productivity tool for reporting that expands the value of your existing databases. Reporter NOMAD offers flexibility, functionality and fast access to your data. Optional interfaces provide access to data sources, including the leading relational database systems such as DB2, SQL/DS and Teradata DBC/1012, as well as IMS and IDMS, ISAM, QSAM and VSAM files.

With Reporter NOMAD, you have the single most comprehensive tool available for data inquiry and analysis.

Reporter NOMAD features:

- Extensive reporting capabilities that handle simple ad hoc queries to complex production reporting with equal ease,
- A fully integrated decision support system,
- Automated facilities that dramatically reduce time and effort, and
- Windowed environment providing ease of learning and use.

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## Mainframe Options

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### NOMAD Access

With NOMAD Access, you have workstation access to updated centralized information with just a few keystrokes. Productivity is immediate—no need to know any syntax.

NOMAD Access is an easy-to-use PC interface with action bars and pull-down menus to extract mainframe data and download it to the PC. NOMAD Access is your gateway to mainframe data accessible by NOMAD, as well as PC products such as NOMAD, Excel, Lotus 1-2-3, Multiplan and other ASCII format data.

NOMAD Access lets you extract only the items you need to fulfill a specific requirement, eliminating the transfer of whole files or tables that might otherwise overload the communication lines or the PC user's disk space. And because data access rights can be controlled, your data security is protected.

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### NOMAD Assistant

The NOMAD Assistant provides a quick headstart for first-time and occasional users who need ease of use and immediate productivity without sacrificing power and functionality. The intuitive flow of its menu-assisted, syntax-free screens gives you easy access to any NOMAD-supported databases for database creation and reporting. Unique cataloging facilities simplify the process of keeping track of source databases, report requests, database extracts and other frequently used tools.

The NOMAD Assistant also functions as a learning tool that makes migration to full NOMAD use a natural process. Through the course of point-and-pick requests, NOMAD commands are saved and displayed, so that the repetition and visualization of commands helps users progress to more advanced use of NOMAD.

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## **NOMAD Collection**

The NOMAD Collection is an extensive set of productivity tools and facilities designed to give you everything you need for building powerful and timesaving solutions in one easy-to-use package. The NOMAD Collection speeds application development by providing varying levels of power and functionality to meet the varying experience levels of users.

The NOMAD Collection offers a variety of tools for application generation, including templates for windowed interface design and utilities for managing your operating environment. Also included are facilities for customizing "HELP" and function keys, online education materials and several demonstration systems for learning NOMAD.

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## **Flashpoint for NOMAD**

Using an icon-based, visual approach, Flashpoint for NOMAD enables you to develop Microsoft Windows-based graphical user interfaces (GUIs) for mainframe NOMAD applications. In addition, Flashpoint for NOMAD lets you access both mainframe and workstation applications with the click of an icon. Through Dynamic Data Exchange, you can integrate mainframe data such as DB2, SQL/DS, IMS and VSAM with your choice of other Microsoft Windows applications on the desktop. And a hot-link facility means that if the mainframe data changes, the data on your workstation is automatically updated as well.

For application developers, 90% of the GUI development is accomplished by a point-and-click visual design process. Compliance with many SAA/CUA rules is automatic, and default libraries and templates further simplify application delivery.

Flashpoint for NOMAD delivers important productivity gains for all users, most notably by making the user interface of your applications more intuitive and simpler to use.

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## **NOMAD MVS Session Manager**

The NOMAD MVS Session Manager is a breakthrough in 4GL efficiency. This resource management program dramatically improves response time and performance for interactive MVS users. The NOMAD MVS Session Manager provides a reliable, ready-to-use solution for delivering efficient production-level applications at a fraction of the cost of traditional methods.

Designed for interactive NOMAD usage outside of TSO, the NOMAD MVS Session Manager runs as a VTAM application, directly accessible through a VTAM network, and performs its own terminal management. It can also be accessed directly through CICS or TSO using NOMAD's Remote Terminal Processor. As a result, NOMAD MVS Session Manager provides improved response time, improved resource utilization and interactive access to production databases without the overhead of TSO.

A high level of installation management is achieved by special features like a Logon Rotor for routing users into appropriate regions; session simulation facilities, which facilitate testing and training; monitoring and control facilities such as the Global Master Terminal Operator for monitoring current user activity; system log datasets to record time-stamped information; and generation of SMF records for user accounting.

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## **NOMAD Application Performance Analyzer (NAPA)**

NAPA is a powerful and flexible tool for monitoring the resources used by NOMAD applications in order to pinpoint areas where application efficiency and resource utilization can be improved.

Flexible monitoring commands allow you to specify and record machine and operating system resources used by NOMAD procedures, commands and shared database servers at significant points, from application down to statement level.



NAPA can be used to monitor the resource usage of all NOMAD-based products, including those working with external SQL-based databases, NOMAD MVS Session Manager, Reporter NOMAD and Run-Time NOMAD.

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### **NOMAD One Pass**

Designed for high-volume, production reporting systems, NOMAD One Pass significantly reduces the data access requirements of reporting and the resource drain often associated with large production databases. By processing multiple report requests from a single pass of the databases, savings of up to 51% of CPU time and 90% of DASD and execution time have been recorded.

NOMAD users can realize significant performance improvements in existing applications and can implement new applications that take specific advantage of One Pass functionality.

One Pass can be used with all mainframe NOMAD products including Reporter NOMAD, Run-Time NOMAD and NOMAD MVS Session Manager. NOMAD One Pass also improves efficiency when reporting against data stored in mainframe SQL database systems to which NOMAD interfaces: DB2, SQL/DS and Teradata DBC/1012.

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### **NOMAD QLIST**

NOMAD QLIST is a CUA-style reporting productivity tool for quickly generating NOMAD reports. With NOMAD QLIST, you can create, change and test LIST requests immediately and efficiently using a fully integrated edit, browse and help facility.

NOMAD QLIST features a clear, consistent user interface so you receive constant feedback. Menus are always displayed in the same locations, with colors denoting which windows are in use and their function (action bar, pull-down, help, etc.). You control the dialogue through the selection of action bars or pull-down menu picks.

As you build a LIST request, the process is highlighted through action-bar picks at the top of the screen. You always know the function that is being accessed, and can perform or change any step in any order.

With QLIST, reports can be produced from any data source accessible to NOMAD, including DB2, SQL/DS and Teradata tables, and IDMS, IMS, ISAM, QSAM and VSAM files.

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### **NOMAD Interfaces**

NOMAD's series of interfaces brings the full richness and power of NOMAD for application development and end-user computing to data stored in your production systems. All of the NOMAD interfaces use NOMAD's single environment and consistent syntax, which means users can quickly and easily become productive.

With NOMAD's DB2, SQL/DS and Teradata Interfaces you have powerful relational interfaces that provide full read/write access, as well as the ability to create SQL tables. The interfaces intelligently pass through to the SQL engine functions that are supported by the engine—such as selection, aggregation and sorting—while complementing the engine with functionality that is unique to NOMAD. The DB2 and Teradata interfaces are especially helpful in managing information stored in very large databases.

For data stored in IMS and IDMS databases, NOMAD provides flexible and efficient access. These interfaces offer full-featured capabilities that address a broad spectrum of reporting and analysis requirements. NOMAD also ensures data integrity and security to control and protect your data.

The GEDI Interface, NOMAD's Generalized Exit/Database Interface, meets the needs of application developers who want to create their own read/write access to "home-grown" production and application files and other DBMSs.

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## Run-Time NOMAD

Run-Time NOMAD is a simple and cost-effective method for distributing your NOMAD applications to multiple mainframe sites without having full production versions of NOMAD at each location. You maximize your investment in NOMAD as an application development tool, while minimizing operation costs and end-user training costs.

Application developers can control data and system resources while users and sites benefit from customized functionality. Your users have access to the applications and information they need with minimal training and support.

Once developed and prescanned, applications can be distributed to an unlimited number of Run-Time NOMAD sites and each site can run any number of applications.

Run-Time NOMAD can be installed under any of the NOMAD-supported operating systems.

## PC Products

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### NOMAD for PC-DOS and OS/2

NOMAD for PC-DOS is a relational 4GL/DBMS that provides a high performance, productive environment for developing stand-alone, cooperative or multi-user LAN-based applications that are easy to learn and use. NOMAD has been designed to run in extended memory, utilizing Rational Systems' DOS extender technology. This effectively eliminates the 640K barrier and frees additional memory for LAN software, emulators and other software required for large distributed applications.

NOMAD for OS/2 provides identical functionality, and takes full advantage of the additional memory and improved performance provided by the OS/2 operating system.

#### *Enhanced Productivity*

NOMAD offers a complete environment for application development and end-user reporting that offers a breadth of capabilities guaranteed to satisfy the most sophisticated user. In its single integrated environment, NOMAD provides a windowed user interface, complete report writer, full data management facilities and comprehensive non-procedural and procedural language. In addition, a developer's toolkit for database definition, code and form generation helps to speed application delivery.

#### *Distributed Applications*

NOMAD's multi-user interfaces make it ideally suited for client/server applications with LAN-based servers such as Gupta Technologies' SQLBase and Microsoft's SQL Server. LAN access to DEC's Rdb/VMS database and RMS files via Digital's Pathworks is provided, and NOMAD can also be used for cooperative processing with remote mainframe databases such as DB2.

#### *Portability*

For maximum flexibility in application delivery, NOMAD applications and databases are fully portable across PC-DOS, OS/2 and DEC VAX/VMS environments.



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## NOMAD with the SQLBase Interface

NOMAD's interface to Gupta Technologies' SQLBase capitalizes on the technology of this leading database server known for its efficient data management and PC memory usage. Coupled with this LAN server, NOMAD offers a true client/server implementation that provides an effective application development solution in a LAN environment.

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## NOMAD Run-Time

Run-Time versions of the products are available as a low-cost means of distributing applications. These execute-only versions are provided with and without the Assistant for reporting, as well as for multi-user applications using NOMAD and the SQLBase Interface.

## DEC VAX Products

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### NOMAD for VAX/VMS

NOMAD for VAX/VMS is a high-powered productivity tool for delivering a full range of applications that access a variety of data sources for reporting and analysis, including Rdb/VMS and RMS.

In NOMAD's single, integrated environment you have a comprehensive non-procedural and procedural language, developer's toolkit, flexible multi-window environment and powerful report generator, including a syntax-free reporting front end.

#### *Flexibility and Portability*

With NOMAD and its interfaces to Rdb/VMS and RMS, you can develop timesharing and client/server applications with access from VAX/VMS, PC-DOS and OS/2 workstations using DECnet. For maximum flexibility in application delivery, your applications can be migrated, without change, between architectures and environments. In addition, NOMAD supports Digital's VIDA interface to DB2, and NOMAD's support for CDD/Plus provides interoperability with other Digital products.

#### *Performance and Efficiency*

NOMAD is fully integrated into the VAX/VMS environment and runs on any VAX, MicroVAX, VAXstation or VAXcluster. The product has been designed specifically to take advantage of VMS operating system features such as multiprocessing capabilities. NOMAD supports SQL syntax and uses the Rdb engine for maximum efficiency by passing functions such as aggregations and WHERE clauses to the Rdb optimizer.



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## NOMAD Rdb/VMS Interface and Server

NOMAD's interface to Rdb/VMS provides full read/write access by multiple users to Rdb data coupled with the power of NOMAD for complete application development and reporting. The interface is used with NOMAD and Rdb/VMS installed on a single processor.

With NOMAD's unique Rdb Server, NOMAD users on either VAX/VMS, DOS or OS/2 workstations have full read/write access to Rdb data in a client/server mode.

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## NOMAD RMS Interface and Server

NOMAD's interface to RMS provides multi-user access to RMS files with similar functionality to the interface to Rdb/VMS. NOMAD also offers a unique RMS Server, which gives VAX and PC workstation users client/server access to RMS data with the flexibility of reading and updating those files.

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## Run-Time Versions

To facilitate economical and controlled distribution of NOMAD applications, Run-Time versions of the products are available.

## Partnerships for Total Solutions

The products from MUST Software International represent our commitment to providing superior productivity tools for distributed applications with transparent access to data across strategic platforms. Our commitment is illustrated by a history of leadership in innovative technology and service to our customers. This commitment is embodied in our total solution approach for building partnerships with our customers.

- *Account Management.* Our sales force works closely with you to understand your business problems and help determine which products and services will best meet your needs.
- *Customer Education.* A full education and training curriculum is offered at Education Centers and on site, and extends to technical seminars, self-study materials and computer-based programs.
- *Customer Support.* Experienced professionals provide product support via a toll-free number to east and west coast support centers. A 24-hour electronic mail system makes it easy to exchange accurate and complete information with the support staff.
- *User Groups.* Customer feedback is crucial to the ongoing development of our products. OASIS is NOMAD's international users organization, a vital resource for exchanging information and suggestions between the user community and MUST Software. Additionally, many European and regional users groups meet regularly to share ideas and tips for enhanced use of NOMAD.
- *Professional Services.* MUST Software's Professional Services is an integral part of the total solution. These professionals are thoroughly trained in NOMAD and can supplement your own development team, handle complete projects or provide advice.

To find out how NOMAD can turn your best ideas into practical solutions, please call us at 1-800-441-MUST. Or complete and mail the attached reply card.

## MUST Software International

MUST Software International is an organization established specifically for the development and worldwide marketing of high-productivity software. We specialize in information management software, with emphasis on products and tools that facilitate decision-making through both production systems and ad hoc analysis.

MUST Software is owned by Thomson SA, a \$13 billion, multinational high-technology company strategically committed to the software industry. With our worldwide market base, MUST Software is the pivotal software company in the Thomson Information Technology Group, a division that generates more than \$600 million in annual revenues.

MUST Software maintains sales and support offices in major cities throughout the United States. MUST Software's European operations provide sales and support in France, Germany and Switzerland, as well as in the United Kingdom, Benelux markets, Italy, Spain, Portugal and Finland through a network of licensed agents and distributors.

**Yes,** please send me more information on these MUST Software International products:

### Mainframe Products:

- |                                       |   |
|---------------------------------------|---|
| <input type="checkbox"/> NOMAD        | <input type="checkbox"/> Teradata NOMAD |
| <input type="checkbox"/> DB2 NOMAD    | <input type="checkbox"/> Reporter NOMAD |
| <input type="checkbox"/> SQL/DS NOMAD |   |

### Mainframe Options:

- |  |   |
|--|---|
| <input type="checkbox"/> NOMAD Access              | <input type="checkbox"/> NAPA           |
| <input type="checkbox"/> NOMAD Assistant           | <input type="checkbox"/> NOMAD One Pass |
| <input type="checkbox"/> NOMAD Collection          | <input type="checkbox"/> NOMAD QLIST    |
| <input type="checkbox"/> Flashpoint for NOMAD      | <input type="checkbox"/> Run-Time NOMAD |
| <input type="checkbox"/> NOMAD MVS Session Manager |   |

### NOMAD Interfaces:

- |   |   |
|---|---|
| <input type="checkbox"/> DB2 Interface      | <input type="checkbox"/> IMS Interface  |
| <input type="checkbox"/> SQL/DS Interface   | <input type="checkbox"/> IDMS Interface |
| <input type="checkbox"/> Teradata Interface |   |

### PC Products:

- |   |   |
|---|---|
| <input type="checkbox"/> NOMAD for PC-DOS | <input type="checkbox"/> NOMAD with the SQLBase Interface |
| <input type="checkbox"/> NOMAD for OS/2   |   |
| <input type="checkbox"/> NOMAD Run-Time   |   |

### DEC VAX Products:

- |   |
|---|
| <input type="checkbox"/> NOMAD for VAX/VMS                  |
| <input type="checkbox"/> NOMAD RMS Interface and Server     |
| <input type="checkbox"/> NOMAD Rdb/VMS Interface and Server |
| <input type="checkbox"/> Run-Time Versions                  |

- ☐ Please have a sales representative call.

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_

Hardware Currently Installed: \_\_\_\_\_

Operating System(s): \_\_\_\_\_



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Tel: 33-1-49 11 75 75



**THOMSON**

**Yes**, please send me more information on these  
MUST Software International products:

**Mainframe Products:**

- |                                       |   |
|---------------------------------------|---|
| <input type="checkbox"/> NOMAD        | <input type="checkbox"/> Teradata NOMAD |
| <input type="checkbox"/> DB2 NOMAD    | <input type="checkbox"/> Reporter NOMAD |
| <input type="checkbox"/> SQL/DS NOMAD |   |

**Mainframe Options:**

- |   |   |
|---|---|
| <input type="checkbox"/> NOMAD Access                 | <input type="checkbox"/> NAPA           |
| <input type="checkbox"/> NOMAD Assistant              | <input type="checkbox"/> NOMAD One Pass |
| <input type="checkbox"/> NOMAD Collection             | <input type="checkbox"/> NOMAD QLIST    |
| <input type="checkbox"/> Flashpoint for NOMAD         | <input type="checkbox"/> Run-Time NOMAD |
| <input type="checkbox"/> NOMAD MVS Session<br>Manager |   |

**NOMAD Interfaces:**

- |   |   |
|---|---|
| <input type="checkbox"/> DB2 Interface      | <input type="checkbox"/> IMS Interface  |
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| <input type="checkbox"/> Teradata Interface |   |

**PC Products:**

- |   |  |
|---|--|
| <input type="checkbox"/> NOMAD for PC-DOS | <input type="checkbox"/> NOMAD with the<br>SQLBase Interface |
| <input type="checkbox"/> NOMAD for OS/2   |  |
| <input type="checkbox"/> NOMAD Run-Time   |  |

**DEC VAX Products:**

- ☐ NOMAD for VAX/VMS
- ☐ NOMAD RMS Interface and Server
- ☐ NOMAD Rdb/VMS Interface and Server
- ☐ Run-Time Versions

- ☐ Please have a sales representative call.

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

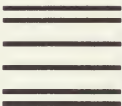
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_

Hardware Currently Installed: \_\_\_\_\_

Operating System(s): \_\_\_\_\_





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